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(71) Applicant *(for all designated States except US)*: MARKET DATA CORPORATION [US/US]; Reckson Executive Park, Six International Drive, Rye Brook, NW 10573 (US).

(72) Inventors; and
(75) Inventors/Applicants *(for US only)*: SEIDEL, Andrew, D. [—/US]; 12 North Brae Court, Tenafly, NJ 07670 (US). WISZ, Gerald, G. [—/US]; 368 Fruitwood Terrace, Williamsville, NY 14221 (US).

(74) Agent: MURRAY, Michael, M.; Milbank, Tweed, Hadley & McCloy LLP, One Chase Manhattan Plaza, New York, NY 10005-1413 (US).

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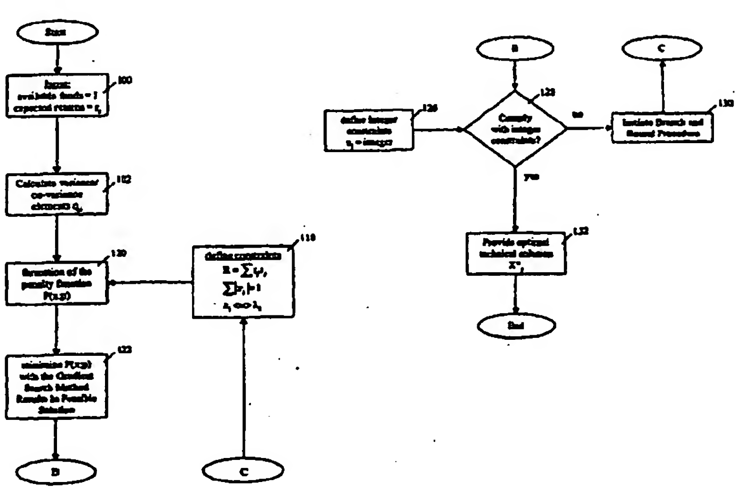
(54) Title: NOMINATIVE ADAPTIVE PROGRAMMING FOR A CLASS OF NON-LINEAR MIXED INTEGER PORTFOLIO OPTIMIZATION PROBLEMS



(57) Abstract: Apparatus and method for providing an optimal portfolio of assets by substantially maximizing the rate of return for a level of risk, or minimizing the level of risk for a rate of return. The apparatus and method incorporates a precise model formulation (100) whereby short sales are accounted for in the model specification. The apparatus and method also incorporates at the outset a precise model formulation whereby integer constraints (126) are accounted for in the model specification. Finally, the apparatus and method provides a recursive adaptation of the problem structure to unpredictable market conditions, by assuming that the model specification is deterministic rather than stochastic, and creating a directed feedback loop wherein nominative structural changes are put back into the model (130) and revalidated when market conditions deny the execution of the technical solution (132).

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